

REMARKS

This Preliminary Amendment is filed in order to facilitate processing of the above-identified application. In particular, the claims have been amended in order to distinguish them over the cited prior art and in particular none of the references show, teach or suggest planarizing the shape pattern or phase shift pattern by a chemical and mechanical polishing as claimed in claims 1-5 and 16-20 or the transparent substrate formed with the shade pattern is further selectively etched to form a phase shift pattern as claimed in claims 7-8 and 22-23.

Thus it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason the Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, applicant respectfully petitions for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our
Deposit Account No. 02-4800.

Respectfully submitted,

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Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

1. (Amended) A photomask at least comprising:

a transparent substrate;

a hollow section formed on a main surface of said transparent substrate;

a shade pattern [including a shade section, said shade section made up of a shade film and] formed in said hollow section; and

a reflection preventing [sections, each formed according to one of cases:

each reflection preventing section formed on said shade section;

each reflection preventing section formed under said shade section; and

each reflection preventing section] film formed on a back or surface of [and under] said shade [section] pattern, wherein the surface of said shade pattern is planarized by a chemical and mechanical polishing thereon.

2. (Amended) A photomask comprising:

a transparent substrate;

a shade pattern formed selectively on a main surface of [a] said transparent substrate; and

a phase shift pattern selectively formed on said shade pattern and said transparent substrate,

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

wherein a surface of said phase shift pattern is planarized by a chemical and mechanical polishing.

5. (Amended) A photomask comprising:
a transparent substrate;
a hollow section formed on a main surface of said transparent substrate;
a shade pattern [made up of a shade film, said shade film] formed in said hollow section; and
a phase shift pattern [whose surface is planarized,] selectively formed on said transparent substrate and [part of] said shade pattern, [formed in said hollow section]
wherein a thickness of an end section of said phase shift pattern in contact with said transparent substrate gradually decreases, the gradual decrease formed by chemical and mechanical polishing..

7. (Amended) A photomask comprising:
a transparent substrate;
a hollow section formed on a main surface of said transparent substrate;
a shade pattern [made up of a shade film, said shade film] formed in said hollow section; and

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

a phase shift pattern formed [in] by selectively etching said transparent substrate [by another hollow section].

8. (Amended) A photomask according to claim 7, wherein an end section of said phase shift pattern that is in [contacted to] with said transparent substrate has a sloped shape that gradually decreases[, the sloped shape formed by chemical and mechanical polishing].

13. (Amended) A photomask according to claim 2, further including
[comprising:

a transparent substrate; and]

a halftone phase shift pattern with a shade pattern [selectively formed on said transparent substrate,

wherein a surface of said phase pattern is flat].

14. (Amended) A photomask according to claim 2, wherein said phase shift pattern [includes a phase shift pattern having] has a shade pattern formed with a phase shifter.

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

15. (Amended) A photomask according to claim 2, further including
[comprising:
a transparent substrate; and]
an intermediate type phase shift pattern [selectively formed on said transparent
substrate,
wherein a surface of said phase shift pattern is flat].
16. (Amended) A photomask fabrication method at least comprising the steps
of:
forming a resist [film] on a transparent substrate;
forming a [desired] pattern [on said resist film by developing said resist film after
said resist film is] by selectively exposing and developing said resist by using a radiation
ray;
[forming hollow sections in said transparent substrate by] selectively etching said
transparent substrate by using said resist [film] as a mask;
eliminating said resist [film from said transparent substrate];
forming a first reflection preventing film on said transparent substrate which is
selectively etched [in each of said hollow sections];

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

forming a shade film on said first reflection preventing film [formed in each of said hollow sections];

[forming a shade pattern by] performing a chemical and mechanical polishing for said shade film; and

forming a second reflection preventing film [on said shade pattern;

wherein said processes for forming said first reflection preventing process and said second reflection preventing process are performed selectively].

17. (Amended) A photomask fabrication method at least comprising the steps of:

[forming a shade pattern on a transparent substrate;]

forming a resist on a shade film on a transparent substrate;

forming a pattern by selectively exposing and developing said resist by using a radiation ray;

selectively etching said shade film by using said resist as a mask;

eliminating said resist;

[coating] forming a phase shift film on [both said transparent substrate and] said shade [pattern] film which is selectively etched;

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

[forming a phase shift pattern by] selectively etching said phase shift film [by using a radiation ray]; and

performing a chemical and mechanical polishing [for a surface] after selectively etching of said phase shift film [pattern in order to form said phase shift pattern having a desired thickness].

18. (Amended) A photomask fabrication method according to claim 17, after the step of forming said phase shift pattern, further comprises the [steps] step of:

[selectively etching said phase shift pattern by using said radiation ray; and]
performing [said] a chemical and mechanical polishing [for said surface of said phase shift pattern that has been etched in order to form said phase shift pattern having a desired thickness and a flat surface].

19. (Amended) A photomask fabrication method according to claim 17, after the step of [forming said shade pattern on said transparent substrate] eliminating said resist, further comprises the steps of:

forming a second resist film on said shade film which is selectively etched;
[forming a resist pattern by] selectively etching said second resist film to form a second resist pattern [by using said radiation ray];

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

selectively etching said transparent substrate by using said second resist pattern as a mask;

eliminating said second resist pattern [from said transparent substrate]; and

performing said chemical and mechanical polishing [for said surface of said phase shift pattern].

20. A photomask fabrication method at least comprising the steps of:

forming a resist [film] on a transparent substrate;

forming a [desired] pattern [on said resist film] by selectively exposing and

developing said resist [film after said resist film is selectively exposed] by using a radiation ray;

[forming hollow sections in said transparent substrate by] selectively etching said transparent substrate by using said resist [film] as a mask;

eliminating said resist [film from said transparent substrate];

forming a shade film [in each of said hollow sections] on said transparent substrate which is selectively etched;

performing a chemical and mechanical polishing for said shade film [in order to form a shade pattern];

forming a phase shift film on said [transparent substrate] shade film; [and]

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

[forming a planarized phase shift pattern by] selectively etching said phase shift film
[by using said radiation ray]; and
performing a chemical and mechanical polishing.

22. (Amended) A photomask fabrication method at least comprising the steps
of:
forming a resist [film] on a transparent substrate;
forming a [desired] pattern [on said resist film] by selectively exposing and
developing said resist [film after said resist film is selectively exposed] by using a radiation
ray;
[forming hollow sections in said transparent substrate by] selectively etching said
transparent substrate by using said resist [film] as a mask;
eliminating said resist [film from said transparent substrate];
forming a shade film [in each of said hollow sections] on said transparent substrate
which is selectively etched;
performing a chemical and mechanical polishing for said shade film [in order to
form a shade pattern];
forming a resist film on said [transparent substrate in which said] shade film
[pattern has been formed];

Marked-up Claims 1, 2, 5, 7, 8, 13-20, and 22-23

selectively etching said resist film [by using said radiation ray]; and
selectively etching said transparent substrate to form a phase shift pattern in the
transparent substrate].

23. (Amended) A photomask fabrication method according to claim 22, after
the step of selectively etching said transparent substrate [by using said radiation ray],
further comprises the step of:

performing said chemical and mechanical polishing for a phase shift pattern formed
by selectively etching said transparent substrate.